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The Evolution and Future of Pension Accounting

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The Evolution and Future of Pension Accounting

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HONORS THESIS ABSTRACT

Accounting for defined benefit plans is one of the most complex and cumbersome components of financial reporting for companies in the United States. The purpose of this paper is to examine how and, more importantly, why current accounting standards became what they are today, and how these accounting standards are potentially going to change in the near future. To do this, all of the significant accounting standards related to defined benefit plans passed in the United States since 1948 are broken down to understand not just the technical requirements of the rules, but also the motivation and logic behind them.

After all current US standards are explored, international standards are briefly discussed in conjunction with the global accounting convergence project. This leads to the statistical analysis which compares the current defined benefit obligation recognized by 30 large US corporations to a computed benefit obligation that would be recorded under international financial reporting standards. The results of the analysis show that if US companies switch from US GAAP to IFRS, they will likely recognize a smaller pension liability or possibly even a pension asset.

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INTRODUCTION

Pensions have been in the news constantly over the past few years. Employees are worried about whether the benefits promised to them will be fulfilled when they retire, and companies are concerned about the impact these plans will have on their net income, cash flows, and overall sustainability going forward. Pensions, specifically defined benefit plans, represent a unique cost to the economy. When they started becoming prevalent in the early twentieth century, employers were attracted to the idea of not having to pay employees for many years, and workers were willing to accept lower wage rates in exchange for retirement security. Of course, this only works out for the employees if their companies keep those benefit promises, and recent history would suggest that guaranteed security may be gone.

While the funding status of these plans is what grabs the headlines, the accounting for them has been the source of endless debate and discussion since the 1940s. At first, firms had relatively small pension costs, and payouts were not expected for a very long time. Thus they were given nearly complete freedom in how they accounted for their benefit plans. However, today, pensions represent one of, if not the, biggest liability a company faces, and the accounting rules and disclosure requirements for pensions are amongst the longest and most comprehensive that can be found in the financial statements. By examining how pensions, specifically defined benefit plans, have been accounted for over the past 60 years in the United States, a fuller appreciation can be given to the all of the information companies must present in their financial statements, as well as to the impact a future change in pension standards will have.

OVERVIEW

What is a Defined Benefit Plan?

Pension plans fall into one of two categories: defined contribution plans and defined benefit plans. A defined contribution plan involves employees and employers making contributions to an independent fund with the hope that the amount invested will grow enough over time to provide retirement income for the employee. No promise is made as to the amount that will be available from the fund upon retirement. Instead, the employee is the direct beneficiary of the plan and is the one who bares all of the risks involved with its performance. Historically, this uncertainty has not been an issue since over the long run, these investments have produced significant returns. However, those who retire during a period of depressed investment prices, like the recent economic crisis, may lose a large portion of the investment they had accumulated. Another risk is that the employee will live longer than he or she expected, and the plan will run out of funds. On the other hand, defined contributions are no risk at all to the employers because the only obligation they have is to make the necessary contributions to the plan regardless of its performance. As a result, contribution plans, like 401(k)s, are more common in today's job market.

Defined benefit plans also require employers to make contributions to an independent investment fund. The fundamental difference though is that these plans promise employees a certain level of income upon retirement. No matter how well the plan does, no matter the state of the economy at the time of retirement, and no matter the actual life span of the employee, the employer will be liable for the amount due. The company becomes the beneficiary of the plan and must try to match the amount in the pension fund with the amount needed to meet the retirement obligation.

If the funds from the plan are insufficient, the employer must cover the difference out of its own resources. The company bears the brunt of the risk, although the employee does face the risk that the employer will go out of business or otherwise be unable to meet the retirement obligation, but even that risk is mitigated by the pension benefit guaranty corporation, a government entity that serves as insurance for at least some of the benefits that are lost when a private plan folds. Defined benefit plans have seen a significant decline in the private sector as the number of employees covered has fallen from 38 to 20 percent between 1980 and 2008 (Butruca, Iams, Smith, & Toder, 2009).

Because a defined benefit plan is an entity that is independent of the firm, separate accounting may appear appropriate, but because employers are responsible for any shortfalls in the plan, a liability should be recognized on the balance sheet (or an asset in case of overfunding) and an expense on the income statement. The accounting for these items has been the source of seemingly endless controversy.

Accounting for Defined Benefit Plans

When determining the asset or liability to be recognized by the employer, there are two amounts that must be computed and netted: the fair value of the plan assets and the projected benefit obligation. Usually Generally Accepted Accounting Principles (GAAP) does not allow assets to be netted against liabilities, but because the assets of the plan are used solely for fulfilling the liability, this procedure was acceptable. The plan asset valuation is the simpler of the two because it is made up of predominantly the contributions to the plan made by the employer and the return on the investments made by the plan, less the benefits paid to retirees, all of which are easily determined.

The obligation calculation is a more complex process. The first part is the service cost. The service cost represents "the actuarial present value of benefits attributed by the pension benefit formula to services rendered by employees during that period" (FASB 715-30-20). The matching principle requires that expenses be recognized in the same period as the revenues they produce, and because retirement benefits are a form of compensation, they should be recognized in the same period as other employee costs. The computation of the service costs involve estimating how much of the future retirement obligation owed to the employee is related to this period's productivity and discounting that amount from the estimated retirement age to today. This area gets extremely technical and requires the use of an actuary to complete. The other major part of the obligation is interest expense. The pension obligation is a long term liability, and like other long term debt, interest is incurred as long as it is outstanding. This interest is implicitly stated by the actuarial method used to determine the present value of the service costs. Employers are free to choose whatever interest rate they want, the only restriction is that the rate used must "reflect the rates at which the pension benefits could be effectively settled" (FASB 715-30-35-43). As the standard explains, an employer can determine this by looking at the rates on present annuity contracts or high grade fixed-income investments. With the exception of changes in the pension plan, the only way to reduce a pension obligation is by paying out benefits to retirees.

On the income statement, companies have a pension expense to recognize the economic cost to the employer for having a defined benefit plan. For the most part, this expense is made up of the same parts as the pension asset/liability. The pension expense equals the service cost plus the interest expense less the return on plan assets attributable to the period of the financial statements. Prior service costs and actuarial gains and losses are also systematically recognized in the pension cost over a period of time. This explanation for pension liabilities and expenses is very basic, and the changes in accounting rules over the past 60 years have made this a complex and cumbersome process for the profession.

HISTORY OF US PENSION PLAN ACCOUNTING

Accounting Research Bulletins

Accounting Research Bulletins (ARB) were accounting rules set forth by the committee on accounting procedure (CAP), the first standard setter in the U.S., from 1938 to 1959. During much of this time, accounting for defined benefit pensions was not at all uniform, and companies were free to implement their own methodology. In 1948, CAP released ARB No. 36 "Pension Plans - Accounting for Annuity Costs Based on Past Services" which was the first significant rule that addressed benefit plans. It stated, "Costs of annuities based on past services should be allocated to current and future periods." When an employer starts a new or revises an old benefit plan, it usually gives benefits to employees based on service already preformed. Some believed that these additional benefits should not be recognized currently or in future periods since they incurred in the past and thus should only be applied to those periods. However, the committee believed that these prior service costs would benefit the company going forward in the form of improved employee morale and retention. Therefore, these costs should be recognized in income over the course of the current and future periods.

In September of 1956, the CAP released ARB No. 47 "Accounting for Costs of Pension Plans." In this Bulletin, the committee recommended the use of full accrual accounting. At the time, many firms used a cash basis to determine the pension expense. As a result, the expenses recognized on the income statement were a function of an employer's funding policy and not their economic cost. Employers who were actually responsible and making contributions to the plan would have to recognize expenses that neglectful companies did not. Such a situation was obviously not in the spirit of GAAP and so the committee approved this bulletin formally supporting accrual accounting.

Additionally, ARB 47 also called for recognition of a pension liability on the balance sheet that was equal to the present value of vested employee benefits less the value of the assets pledged to the pension (Par. 7). However, the standard was extremely vague when it came to specifics with regards to computing the liability. Actuarial methods were not at all limited, and even the term "vested" was not clearly defined (APB Opinion No. 8, par. 3).

The other significant item from ARB 47 was the call for increased disclosures. Paragraph 8 states:

> When a plan involving material costs is adopted, there should be a footnote to the financial statements for the year in which this occurs, stating the important features for the year in which this occurs, stating the important features of the plan, the proposed method of funding or paying, the estimated annual charge to operations, and the basis on which such annual charge is determined. When an existing plan is amended to a material extent, there should be similar disclosure of the pertinent features of the amendment. When there is a change in the accounting procedure which materially affects the results of operations, there should be appropriate indication thereof.

This brief paragraph requiring employers to provide supplemental information about initiations of or significant changes to pension plans would be the precursor to a long line of accounting standards and disclosure requirements that would be released.

Accounting Principles Board Opinion

Despite the passage of ARB 36 and 47, there was still a wide range of accounting treatment for pension plans, which APB Opinion No. 8 states is attributable to the lack of clarity and specific direction given by the previous bulletins (par. 3-4).

In 1959, the American Institute of Certified Public Accountants (AICPA) formed the Accounting Principles Board, a new organization intended to help standardize accounting practices. The Board's official pronouncements were called APB Opinions (Kieso, Weygandt, & Warfield, 2010). Although only 1 Opinion had a direct effect on defined benefit plans, it was a very significant standard. The board released APB Opinion No. 8 "Accounting for the Cost of Pension Plans" in November of 1966. The very first paragraph of the opinion explained the problems with pension accounting at the time:

> Pension plans have developed in an environment characterized by a complex array of social concepts and pressures, legal considerations, actuarial techniques, income tax laws and regulations, business philosophies, and accounting concepts and practices. Each plan reflects the interaction of the environment with the interests of the persons concerned with its design, interpretation and operation. From these factors have resulted widely divergent practices in accounting for the cost of pension plans.

An important point that the Opinion emphasized was that "accounting for pension cost should not be discretionary" (par. 16). Despite ARB No. 47, accounting for defined benefit plans was still the product of a number of factors that were controlled by the company, like funding policy or actuarial technique. APB Opinion No. 8 made a concerted effort to make this process much more objective.

The standard has an appendix that describes a couple of acceptable methods when deciding what actuarial technique to use, but any method can be used as long as it is "rational and systematic." That phrase, "rational and systematic," is repeated a number of times in the pronouncement because the Board wanted businesses to maintain the freedom to choose an accounting policy appropriate for their specific plans but still structured enough to meet the broader objectives of fair and relevant financial reporting.

A major point of the Opinion is the requirement that actuarial gains and losses be recognized over the current and future periods. An actuarial gain or loss is a gain or loss that occurs when the estimates made in computing pension expenses and liabilities inevitably do not match up with what actually happened. Differences or changes in estimates of mortality rates, retirement ages, employee turnover, future salaries, etc. have an impact on the company's pension expense and liability. These effects should not be immediately recognized in income but should instead be amortized, as the Opinion puts it, "in a manner that reflects the long-range nature of pension cost" (par. 30). In other words, because defined benefit plans are long term liabilities, mere incidental changes in their estimated values should not cause significant swings in income from year to year. Although no one, set period of time is required for this process, the Board recommended that 10 to 20 years be used as the amortization period.

While still allowing firms flexibility in determining their accounting policy, paragraph 17 of the Opinion sets a minimum and a maximum for the amount of pension expense to be incurred in a period. Specific guidelines are given in the pronouncement on how to calculate each. The purpose of the set minimum is to avoid the problem mentioned before of companies not recognizing an appropriate amount for the cost of the plan in its income statement. The maximum is in place to reduce volatility within the financial statements.

The balancing of precision and stability is a major issue that permeates a lot of the accounting for defined benefit plans. The amortization of actuarial gains and losses and the minimum and maximum limits placed on pension provisions are examples of early attempts at addressing this problem. The main priority of financial statement reporting is the fair representation of an entity's financial position. Therefore, if a company realizes a gain or loss, it should be recognized on its books in the same period that it is incurred. On the other hand, pension plans during the 1960s and 1970s were getting larger and represented a substantial portion of the balance sheet. As a result, even slight changes to the plan's assumptions could have a significant impact on the financial statements. A company could have a very large pension expense in one year and a very small or nonexistent expense the following year. The same could be true of the pension liability or asset. So even though in the long run the plan may be stable, the year-over-year effect could be dramatic. This poses a problem for businesses. Investors are sensitive to significant fluctuations in net income and large swings can hurt the value of the company's stock. Creditors are also weary of volatile financial statements. Banks who loan money to businesses often have minimum requirements for certain financial ratios, like debt-to-assets or income-to-interest, and customers who violate a requirement could have their loan(s) called in prematurely. Therefore, volatility is something that hurts businesses in the eyes of both investors and creditors and may even force the company into a liquidity crisis. The Board's requirement to amortize actuarial gains and losses and place limits on pension expenses served as a compromise between the conflicting goals of precision and stability within the financial statements.

Other changes effecting income that resulted from the Opinion included the requirement that interest on the outstanding liability be recognized as a component of pension expense, and the mandate that no costs could be hidden within retained earnings (which is a balance sheet account representing cumulative earnings), but must be recognized directly on the income statement. This meant that all costs relating to the pension would eventually impact net income, either directly or over a period of time through amortization.

With regards to the pension liability account, the pronouncement declared that any legal obligation for pension costs, beyond what was required in ARB No. 47, should be recognized as a liability on the balance sheet (Par. 18). The logic behind this rule is straightforward in that any debt that the law says you must pay must be recognized as a liability.

As with ARB No. 47, APB Opinion No. 8 does require more disclosures within the financial statement notes. A list of disclosures outlined in paragraph 46 of the Opinion is as follows:

- "A statement that such plans exist, identifying or describing the employee groups covered"
- "A statement of the company's accounting and funding policies"
- "The provision for pension cost for the period"

- “The excess, if any, of the actuarially computed value of vested benefits over the total of the pension fund and any balance-sheet pension accruals, less any pension prepayments or deferred charges”
- “Nature and effect of significant matters affecting comparability for all periods presented, such as changes in accounting methods, changes in circumstances, or adoption or amendment of a plan”

Despite earlier pension pronouncements, defined benefit plans were comprised of many factors influencing their accounting which resulted in inconsistent reporting between companies, and the aforementioned disclosures helped the financial statement users in understanding pensions better. Because APB Opinion No. 8 superseded ARB No. 47, the other parts of the Opinion reemphasized points made in the previous pronouncement.

ERISA and FASB Interpretation No. 3

The Employee Retirement Income Security Act (ERISA) was passed in 1974. This law required companies to maintain minimal funding levels for their defined benefit plans and was passed to protect employees from negligent businesses. Because the act focused on funding policy, there was little impact in the way companies accounted for them. To clarify this, FASB interpretation No. 3, “Accounting for the Cost of Pension Plans Subject to the Employee Retirement Income Security Act of 1974,” was released that same year. This short pronouncement simply stated that no significant accounting changes were necessary in light of the new law. So even though ERISA was one of the most significant pieces of legislation ever passed that dealt with pensions, the impact it had on the accounting was minimal.

SFAS No. 36

In response to criticism of the Accounting Principles Board, the Wheat Committee was formed in 1971 to study the process of creating new accounting rules and regulations. As part of the Committee's recommendations, the Financial Accounting Standards Board (FASB) was established in 1973. The standards released from the FASB are entitled "Statement of Financial Accounting Standards" (SFAS or FAS) and the FASB remains the authority on GAAP in the United States to this day.

FAS No. 36, "Disclosure of Pension Information," was passed in 1980 and served as an amendment to APB Opinion No. 8. At this time, adequate disclosure and comparability still lingered as an issue and the FASB had undertaken a major project to reform pension accounting (Par. 1-2). FAS No. 36 was intended as only an interim standard until that project was completed; however, it did introduce new and significant disclosure requirements.

Paragraph 8 of the standard lays out the following disclosure requirements:

- The actuarial present value of vested accumulated plan benefits
- The actuarial present value of nonvested accumulated plan benefits
- The plans' net assets available for benefits
- The assumed rates of return used in determining the actuarial present values of vested and nonvested accumulated plan benefits
- The date as of which the benefit information was determined

Up to this point, companies reported the net of the pension liability and the fair value of the plan's assets on the balance sheet as one line item with no further explanation. FAS No. 36 now required that the obligation and plan assets be disclosed separately. This was a significant change because it gave financial statement users a lot more information with regards to the make up of the pension asset or liability on the books. For example, if one company has a benefit obligation of $100 thousand and plan assets of $50 thousand while another company has a $50 million obligation and $49.95 million in plan assets, both would report a $50 thousand liability on the balance sheet. However, it is clear that the latter company is well funded while the other company is not. By disclosing both components, the solvency of the defined benefit plan can be better understood.

The concept of vested and nonvested benefits is one that has been discussed in previous standards in the context of actuarial calculations, but never as prominently as it was in FAS No. 36. Many companies have stipulations in their pension plans that state that employees will not be entitled to pension benefits until he or she works for a certain number of years. For example, if the plan stipulates that an employee must work for at least 5 years to get a pension, as soon as an employee reaches that 5 year mark, his or her benefits are considered vested, but for the first 5 years, the benefits are considered nonvested. Vested benefits are guaranteed because the employee does not have to work another day to be entitled to the pension, but unvested benefits are contingent upon continued service.

The next disclosure is of the rate used in determining the present value of pension benefits. This is an important footnote to include because companies have the freedom to use whatever rate they want as long as it is deemed reasonable. While that freedom gives companies flexibility in using a rate that matches their specific plan, it also allows for the possibility of abuse. Requiring this disclosure allows users to see whether businesses are using overly generous interest rates. Higher discount rates lower the present value of the liability and thus lower the liability recorded on the balance sheet. Therefore, the disclosure shines a light on the assumptions used in pension calculations.

The last requirement, disclosing the date for which the pension information is determined, helps clarify to users at precisely what point the obligation and assets were valued. Because balance sheets are dated as of the last date of the period, those viewing the statements might assume that the pension items were determined as of that same date. While the differences in date is usually immaterial, if a major decline in asset values (i.e. from a sharp decline in the stock market) or a significant shift in interest rates occurs between the valuation date and year-end, then the disclosure of that date would give the public important information with regards to the pension account on the balance sheet and whether the measurements made are still relevant.

SFAS No. 87

Nearly four decades after ARB No. 36, the profession was still struggling to establish acceptable methods to account for defined benefit plans.

> After 1966, the importance of information about pensions grew with increases in the number of plans and amounts of pension assets and obligations. There were significant changes in both the legal environment (for example, the enactment of ERISA) and the economic environment (for example, higher inflation and interest rates). Critics of prior accounting requirements, including users of financial statements, became aware that reported pension cost was not comparable from one company to another and often was

> not consistent from period to period for the same company. They also became aware that significant pension-related obligations and assets were not recognized in financial statements. (FAS 87 Summary)

As was previously mentioned, SFAS No. 36 was intended only to be a temporary standard in place until the culmination of a major project on pension accounting. The result of that project was SFAS No. 87, “Employers’ Accounting for Pensions,” which superseded SFAS 36 and APB Opinion No. 8 and its associated interpretations and amendments. SFAS No. 87 was passed in December of 1985 and is perhaps the most important pension-related accounting standards passed to date. A comprehensive standard has been in need for decades, as the summary of FAS No. 87 states:

> Measuring cost and reporting liabilities resulting from defined benefit pension plans have been sources of accounting controversy for many years. Both the Committee on Accounting Procedure, in 1956, and the Accounting Principles Board (APB), in 1966, concluded that improvements in pension accounting were necessary beyond what was considered practical at those times.

SFAS 87 was intended to provide a completely new beginning for pension accounting, so paragraph 20 of the standard included the following, revised list of the components of pension cost:

- Service cost
- Interest cost
- Actual return on plan assets
- Amortization of unrecognized prior service cost

- "Gain or loss (including the effects of changes in assumptions)"
- "Amortization of the unrecognized net obligation or unrecognized net asset existing at the date of initial application of this statement"

Service cost is defined in the same way it had been before. Interest cost is equal to the interest on the projected benefit obligation (which will be defined later) (Par. 22). The amortization of prior service costs (PSC) was slightly revised to require companies to amortize PSC over the expected service periods of active employees (if most participants are inactive employees, amortization should be based on the participants life expectancy). While employers still had the option to use a method that would amortize PSC over a shorter period of time, this new maximum amount reduced the flexibility employers used to enjoy (par. 24-26).

The gain or loss component introduced a new concept. As was the case before, companies did not have to recognize actuarial gains or losses immediately. Instead, they could spread out the gains and losses over a period of time, with the only restraint being that the methodology be reasonable and be used consistently. The problem this posed was that some companies would have extremely large amounts of unrecorded income just sitting on the books. To address this, SFAS 87 required that any amount of unrecognized gain or loss that exceeds 10 percent of the greater of the projected benefit obligation or fair value of plan assets must be amortized over the expected remaining service life of active employees (par. 32). This process has come to be known as the corridor approach because any amount outside of that 20 percent corridor (10 percent for unrecognized losses to 10 percent for unrecognized gains) must be amortized. However, companies still have the freedom to use any amortization method they want as long as it was used consistently and they still recognize, at a minimum, the amount that would be recognized under the corridor method.

Another part of the gain or loss component of pension expense is the concept of expected and actual return on plan assets. Expected return is the "expected long-term rate of return on plan assets" (par. 30) while actual return refers to the change in fair value of plan assets from the beginning of the period to the end of the period, adjusted for contributions to and payments from the fund (par. 23). During times of strong economic growth, actual return tends to be higher than expected return, and the opposite is true during periods of recessions. The Board agreed with those who stated that including all of the actual return in pension costs could lead to increased volatility in the income statement. Therefore, companies were allowed to delay recognition of the difference between expected return and actual return (par. 121). Periods of low returns could thus be offset with periods of high returns so that the amount of pension expense is stable from year to year. However, this move towards stability does have its risks. A 2007 article in *Bank Accounting & Finance* provides an example related to SBC Communications; it had an expected positive return of $3.4 billion but an actual loss of $3.4 billion. This resulted in a $6.8 billion overstatement of income in a year where net income was just $5.6 billion (Duangploy & Pence, 2007). Although this is an extreme example, it illustrates the risks involved with trying to maintain stability on the balance sheet.

Both the corridor and the delayed recognition of the difference between actual and expected gains/losses are prime examples of the accounting profession trying to balance precision and stability in the financial statements. The corridor prevents a company from having large amounts of unrecognized gains or losses sitting on the books, potentially distorting income. At the same time, standards require the use of expected returns over actual returns to stabilize the year to year differences in pension costs.

Vested benefit obligation (VBO), accumulated benefit obligation (ABO) and projected benefit obligation (PBO) were new terms created by SFAS 87. The formula used to determine the pension payments to retirees is often a function of the salary the employee had during his or her last year(s) of service. The VBO is the actuarial present value of vested benefits assuming current salaries. The ABO is the actuarial present value of pension benefits (both vested and nonvested) also assuming current salaries. The PBO is the present value of future benefits with the assumption of projected future salaries (Par. 17-18).

Prior to the standard, companies had freedom when determining pension costs and liabilities, but after SFAS 87, the flexibility was limited by an effort to make comparability between entities easier. As mentioned before, the interest cost component of pension expense would now be equal to the interest on the beginning projected benefit obligation. The PBO was also one of the numbers needed when calculating the corridor used in amortizing unrecognized gains and losses.

Paragraph 36 of the standard required that a company recognize a minimum liability on its balance sheet "that is at least equal to the unfunded accumulated benefit obligation" which is determined by taking the ABO and subtracting the fair value of plan assets. This is a significant difference from past standards that required only a liability that reflected a legal obligation as opposed to one using accrual accounting like the accumulated benefit obligation. The final accounting change was that the date of which the benefit obligation and plan assets could be evaluated at had to be within the 3 months prior to the date of the balance sheet (par. 52).

SFAS 87 is the accounting standard where pension disclosures begin getting very extensive. Paragraph 54 lays out the following information that companies need in their financial statements:

- "A description of the plan including employee groups covered, type of benefit formula, funding policy, type of assets held, and significant nonbenefit liabilities"
- The pension expense for the year showing separately these components:
    - Service cost
    - Interest cost
    - Actual return on assets
    - Net total of other components
- A reconciliation of the funded status of the plan including the following:
    - The fair of plan assets
    - The projected benefit obligation, the accumulated benefit obligation, and the vested benefit obligation
    - Unrecognized prior service cost
    - Unrecognized gains or losses
- The discount rate and rate of compensation increase assumed in calculating the PBO and expected return on plan assets
- "The amounts and types of securities of the employer and related parties included in plan assets"

The standard states that in the case of an employer having multiple plans, all the overfunded plans can be aggregated together and all of the underfunded plans can be aggregated together, but over and underfunded plans cannot be combined because the assets in one plan cannot be used to meet the obligation in another (Par. 56).

Requiring a description of the plan and the disclosure of certain interest rates used reiterates what previous standards had already required. The reconciliation of both pension expense and the pension liability were new. This requirement allowed financial statement users to see how and why these accounts were what they were as opposed to seeing only a single number representing the sum of all components. It is important to note, however, that the employer does not control these individual components. The pension fund is a separate entity that does its own accounting and the employer just records the appropriate expense and liability on its books.

The final disclosure listed may not be relevant to all plans, but is something that could reveal important information. Disclosure must be made if a pension fund has a significant amount of assets that are directly related to the employer or a related party to the employer (like a parent or subsidiary company), because if the employer company enters bankruptcy, the assets will become worthless. The independence that pension plans inherently have from the company would be broken. By revealing this information, financial statement users can judge whether or not the stability of the pension fund is too dependent upon the stability of the employer.

SFAS 88, which was also released in December of 1985 as a complement to SFAS 87, was a much smaller standard and applies when an employer terminates a pension plan. If a plan is terminated, then any unrecognized gains or losses immediately become recognized or if portions of the pension are curtailed, then a proportionate share of the unrecognized gain or loss will be recognized in income. The footnote disclosures must also include "a description of the nature of the events(s)" and "the amount of gain or loss recognized" (Par. 17). This SFAS made sure that companies were not eliminating pensions without taking an appropriate hit on the income statement, and it gave financial statement users a better understanding of the true cost of the defined benefit plan.

SFAS No. 132

SFAS No. 132, "Employers' Disclosures about Pensions and Other Postretirement Benefits," was passed in 1998. It did not change any of the accounting procedures for defined benefit plans but did amend the disclosure requirements of SFAS 87 and SFAS 88. Paragraph 2 of the standard explains the purpose of the standard (emphasis added):

> Although current disclosures requirements for pensions and other postretirement benefits are extensive, many users of financial statements told the Board in their responses to the Prospectus that the *information provided only partly met their needs*. Most of those users wanted information that would assist them in (a) evaluating the employer's prospects for future cash flows, (b) analyzing the quality of currently reported net income, and (c) estimating future reported net income. The Board concluded that disclosures about pensions and other postretirement benefits could be improved to provide information that is *more comparable, understandable, and concise* and that would better serve users' needs.

As the discussion on SFAS 87 explained, and as the preceding paragraph from the FASB stated, the pension disclosure requirements prior to SFAS 132 were already quite detailed. However, they still lacked information that some financial statement users wanted. In addition to what was already required, paragraph 5 of the new standard laid out the following, even more extensive list of defined benefit plan disclosures:

- "A reconciliation of beginning and ending balances of the projected benefit obligation"
- "A reconciliation of beginning and ending balances of the fair value of plan assets"
- "The amount of net periodic benefit cost recognized, showing separately the service cost component, the interest cost component, the expected return on plan assets for the period, the amortization of the unrecognized transition obligation or transition asset, the amount of recognized gains and losses, the amount of prior service cost recognized, and the amount of gain or loss recognized due to a settlement or curtailment"
- "Any alternative amortization method used to amortize prior service amounts or unrecognized net gains and losses"
- "Any substantive commitment...used as the basis for accounting for the benefit obligation"
- "An explanation of any significant change in the benefit obligation or plan assets not otherwise apparent in the other disclosures required by this Statement"

While SFAS 87 merely required disclosing the accumulated benefit obligation and the fair value of plan assets, SFAS 132 took it one step further by showing a reconciliation between the beginning and ending balances in both accounts. In other words, employers would have to show every single item that impacted the obligation and plan assets during that period. This would provide even more transparency of how the net funded status of the plan is determined. The breakdown of the periodic pension cost was something also introduced in SFAS 87, but the new standard includes more components that must be separately disclosed.

The final three points help reveal other important information about pension plans. The disclosure of alternative methods used for amortizations help users make comparisons between companies. The disclosure on any "substantive commitment" used in determining the benefit obligation gives insight into any future changes to the pension. And the final point is a catch-all requirement that prevents companies from arguing that following the letter of the rule is a justification for not disclosing enough information.

In a move contrary to the general trend of the last few standards, paragraph 8 of the standard actually reduced the number of disclosures required for nonpublic companies. However, public companies had to comply with all of the above disclosure requirements, and it should also be noted that these requirements were required for all periods included in the financial statements. This meant the income statement related disclosures had to be displayed for each of the past 3 periods and balance sheet disclosures had to be presented for the past 2 periods.

SFAS 132R

Instead of releasing a new standard to address pension disclosures, in 2003, the FASB released a revised version of SFAS 132. The revised version does not address accounting for pensions but adds to the already thorough list of required footnote disclosures. The summary included in the standard lays out the following reason for the new standard:

> This Statement was developed in response to concerns expressed by users of financial statements about their need for more information about pension plan assets, obligations, benefit payments, contributions, and net benefit cost. Users of financial statements cited the significance of pensions for many entities and the need for more information about economic resources and obligations related to pension plans as reasons for requesting this additional information.

Despite the avalanche of information given by SFAS 87, SFAS 88, and SFAS 132, users were still looking for more. Although the previous discussions on those standards would seem to make these sentiments invalid, considering the fact that, at this point in time, pensions had become one of the biggest expenses on the income statement and often times the biggest liability on the balance sheet, a call that every piece of relevant information be revealed is understandable.

Paragraph 5 of SFAS 132R has a list of 18 required pension footnote disclosures, and even some of those are broken down into further requirements. Most of these are just restatements of what past standards required, but listed here are the newest disclosures introduced:

- "For each major category of plan assets, which shall include, but is not limited to, **equity securities, debt securities,** real estate, and all other assets, the percentage of the fair value of total plan assets held as of the measurement date used for each statement of financial position presented"
- "A narrative description of investment policies and strategies, including target allocation percentages or range of percentages for each major category of plan

assets…and other factors that are pertinent to an understanding of the policies or strategies such as investment goals, risk management practices, permitted and prohibited investments"

- "A narrative description of the basis used to determine the overall expected long-term rate-of-return-on-assets assumption"
- "Disclosure of additional asset categories and additional information about specific assets within a category…if that information is expected to be useful in understanding the risks associated with each asset category and the overall expected long-term rate of return"
- The accumulated benefit obligation
- "The benefits expected to be paid in each of the next five fiscal years, and the aggregate for the five fiscal years thereafter"
- "The employer's best estimate…of contributions expected to be paid to the plan during the next fiscal year"
- "In a tabular format, the assumptions used to determine the benefit obligation and the assumptions used to determine net benefit cost"

The first four points relate to plan assets. The first one requires employers to provide a breakdown of the different types of assets that make up the fund. As the appendix to the standard explains, this additional information helps users understand the pension's assets' "exposure to market risk and potential cash flow demands" (Par. A12). In other words, users can see how concentrated the plan is in certain types of assets and determine for themselves how risky this level of concentration is. The next item in the list requires a description of the investment strategy of the pension fund which is required for the same reason as the previous item; it helps users understand the risks involved with the plan assets. The third point requires an explanation of how the expected return on assets was determined. This is important because it helps prevent employers from using overly generous rates which would artificially reduce their pension expense for the period. The last of these asset related disclosures is another one of those catch-all requirements that tries to ensure that all information a reasonable user of the financial statements would find important is disclosed. Again, this is to prevent a company from justifying holding back information by only releasing required information as specifically stated by US GAAP.

The fifth item listed is the accumulated benefit obligation. Up to this point, the ABO was a required disclosure only if it exceeded plan assets and thus resulted in a minimum liability on the balance sheet. SFAS 132R now requires that the ABO always be disclosed. The reasoning behind not previously including it was that the ABO was irrelevant when it did not result in a pension liability since the projected benefit obligation is used for other relevant calculations. However, as paragraph 31 of appendix A of the standard explains, a lot of financial statement users wanted to know just how close the companies were to recognizing a liability, therefore disclosing the ABO was important to them.

The next two requirements help users understand the cash flow related to the pension obligation over the next five years. SFAS 132R requires employers to disclose how much they expect to pay out in benefits in the next five years and the combined amount of benefits they expect to pay over the five years after that. They are also required to report their estimate of how much to expect to contribute to the plan in the next year. Financial statement users will now be able to better judge just how much demand will be placed on the employers' pension plans in the near future. For example, suppose you have two companies that report the same pension liability, but one has been around for 50 years and has a lot of employees about to retire while the other is relatively new and has a young workforce. Though both may have the same obligation on the books, the latter company does not have to worry about paying out benefits any time soon. However, the older company will be responsible for any benefits that must be paid out that cannot be met by the plan assets. That company is at a greater risk of running into cash flow problems. Therefore, disclosing the estimated payments to retirees over the next five years and the estimated contributions to the plan in the next year help financial statement users understand the solvency of the plan in the near future.

The final point listed has been required for disclosure before, but FAS 132R demands that it be presented in a more user friendly way. Prior to the standard, companies could bury the interest rate assumptions used in paragraphs within the footnotes making it a burden for users to find them. Requiring that assumptions used in determining the benefit obligation and pension expense be displayed in a table made it easier for users to find the information and made comparisons between companies simpler (Par. A36).

FAS 158

SFAS 158, "Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans," was approved in September of 2006. The explanation given by the board for this standard was similar to that given for all of the previous standards:

> The Board issued this Statement to address concerns that prior standards on employers' accounting for defined benefit postretirement plans failed to communicate the funded

> status of those plans in a complete and understandable way...Prior accounting standards allowed an employer to recognize in its statement of financial position an asset or liability arising from a defined benefit postretirement plan, which almost always differed from the plan's overfunded or underfunded status. (FAS 158 Summary)

There are two main accounting changes that came from this standard. The first was the requirement that a pension asset or liability be recognized in an amount equal to the difference in the fair value of plan assets and the *projected* benefit obligation (Par. 4). This differed from previous standards that required only a minimum liability equal to the excess of the accumulated benefit obligation over the fair value of plan assets. The Board believed that the PBO "was the most relevant measure of the pension obligation" (Par. B22). The view that the PBO was a better measure than the ABO was already established back in SFAS 87, but the ABO was the obligation used when computing the required minimum liability. By requiring use of the projected benefit obligation, the balance sheet will better represent the true funded status of the defined benefit fund. SFAS 158 also requires that all overfunded plans be combined and all underfunded plans be combined and recognized as an asset and liability respectively on the balance sheet. Past standards merely allowed for the option for this aggregation.

The other major accounting change was the requirement that the plan assets and benefit obligation be evaluated as of the date of the balance sheet. This differs from past rules that allowed employers to use any day within three months prior to that date. As appendix B of the standard explains, many believed that requiring measurements as of the balance sheet date was too costly since some assets did not have active markets that easily determined their value. However, the Board argued that requiring use of a single date reduced complexity, especially if significant changes in the plan's assets or obligation occur between valuation date and year-end, in which cases such effects would not be recognized in the financial statements until the next year (Par. B55). Using a single date would also make comparisons between companies much easier since differences in valuation dates would require users to adjust for themselves the effect of changes in interest rates or asset values.

The following is the list of disclosures required by paragraph 7 of SFAS 158:

- The amount recognized in other comprehensive income (an equity account, it does not affect the income statement)
- The amount of other comprehensive income recognized on the income statement
- The amount of accumulated other comprehensive income still not recognized in income
- The amount in accumulated other comprehensive income expected to be recognized in income in the next year
- The value of any plan assets that reverted to the business during the next year

The first four items all deal with other comprehensive income. The Board explains in appendix B of the standard that:

> Items that are initially recognized in other comprehensive income...That is, gains or losses and prior service costs or credits from plan amendments arising during the period and amortization of gains or losses, prior service costs or credits, and the transition asset or obligation for the period should be disclosed to provide information about the nature of the items affecting the employer's financial statements. (Par. B62)

The Board understood that the amounts in other comprehensive income are going to be recognized in income eventually, and by disclosing all of this information, users can see what type of impact they will have on the income statement in the periods to come. The last item listed requires that any assets in the plan that will return to the employer in the next year be disclosed. The reasoning is for financial statement users to understand that not all of the assets presently in the fund will be used to pay retiree benefits. It also serves as a check on the company to make sure that it is not taking money out of the fund for non-pension related expenses.

FASB Codification 715-20

In 2009, the FASB launched a project, known as the Codification, to reclassify all of US GAAP into a single source that organizes related accounting standards together. The accounting rules that govern defined benefit plans are found in section 715-20 (Compensation – Retirement Benefits – Defined Benefit Plans).

IAS 19

While the FASB is the accounting standard setter in the United States, the International Accounting Standards Board (IASB) sets accounting standards for IFRS (International Financial Reporting Standards) that are used around the world. The pronouncements that it releases were called International Accounting Standards (IAS) and are now called IFRS.

IAS 19 is the standard that sets forth the accounting for employee benefits under IFRS.

As it stands right now, IAS 19 and US standards are very similar with regards to defined benefit plans in terms of both accounting and disclosure requirements. The major differences between the two standards are laid out in the Table 1 created by E & Y (Ernst & Young, 2010):

The differences between actuarial method, plan asset valuation, amortization of deferred actuarial gains or losses, and the gain or loss on settlements and curtailments are only minor between the two systems. However, there are three significant differences highlighted in this table.

The first difference between US GAAP and IFRS is in the treatment of actuarial gains or losses. Under GAAP, unrecognized gains or losses are amortized over a period of time so that they eventually are recognized on the income statement. IFRS states that if an amount is immediately recognized in other comprehensive income, it can never be moved to the income statement. The reason for this is because the IASB has not agreed to an acceptable method of income recognition that can be uniformly applied across various companies (IAS 19 BC99). Instead of prescribing one method that would not be appropriate for all entities or allow for a variety of methods that diminishes comparability and consistency across firms, IFRS just disallows the recognition of amounts in other comprehensive income.

The second difference between US GAAP and IFRS is the treatment of prior service costs. Under US GAAP, prior service costs are expensed over the expected life of the employee while under IFRS, prior service costs of vested employees are immediately recognized and those of unvested employees are amortized over the average time it takes for the unvested employees to become vested.

The third difference between US GAAP and IFRS is the recognition of a pension asset or liability on the books. GAAP defines the liability as the projected benefit obligation less the fair value of plan assets. IFRS defines the liability also as the PBO minus plan assets, but also subtracts unrecognized actuarial losses and prior service costs.

One last difference, which is not mentioned in the table, between US GAAP and IFRS is that the IASB has an asset ceiling on the potential pension asset on the balance sheet. IAS 19 defines the asset ceiling as "the present value of any economic benefits available in the form of refunds from the plan or reductions in future contributions to the plan" (Par. 8). The reasoning for this is so that firms do not recognize an asset on their books for an amount greater than the value of future benefits of the asset.

2011 Amendments

In June of 2011, IAS 19 was amended, and of the changes made, there are three that are significant. One is that all actuarial gains and losses must be recognized immediately in other comprehensive income. Prior to this, a firm had the choice of whether to recognize these gains and losses in either the income statement or other comprehensive income. The second is that all prior service costs, whether vested or not, must be recognized in income as opposed to just the vested benefits. Finally, the revised standard eliminated the corridor method and required immediate recognition of income in the income statement or other comprehensive income. These amendments take effect January 1, 2013.

Convergence

Recent history has seen a rapid growth in globalization with firms doing business in many different countries. This means that multinational companies must follow different accounting standards making it more complicated and more expensive to comply with appropriate accounting regulations. To address this, the FASB and the IASB have undertaken a major convergence project that will unify the accounting standards so the companies do not have to be burdened by excessive accounting costs. Discussion and debate on how the accounting rules for defined benefit plans will be handled is still on going.

SEC Rules

SEC File No. S7-13-07 allows foreign entities to file with the SEC under IFRS as issued by the IASB without having to provide a reconciliation that converts their financial statements to US GAAP (which was required prior to March 4, 2008). In November of 2008, the SEC released a proposed rule that suggested all US companies begin filing under IFRS in 2014. Currently, only US issuers who are in industries where IFRS are used most frequently can chose to follow IFRS in their SEC filings (SEC No. S7-27-08)

ANALYSIS

Hypothesis

The hypothesis that will be tested is whether or not the transition to international financial reporting standards (IFRS) will have a significant impact on the reported defined benefit pension asset or liability of companies that follow US GAAP.

Sample Collection

The original sample for this study came from the 25-company sample used in a 2011 analysis of footnote disclosures by KPMG and the Financial Executives Research Foundation entitled *Disclosure Overload and Complexity: Hidden in Plain Sight*. From their original list, 3 firms were eliminated due to lack of data availability. These three companies were replaced by 3 of the biggest and most well established entities in the US as evidenced by their listing in the top 100 of the 2011 Fortune 500 list. This is consistent with the rest of the sample which is comprised of some of the largest firms in the United States. Figure 1 is a histogram that shows the spread across varying industries of the sample.

Data Collection and Method

The financial statements used had balance sheet dates between December 31, 2010 and September 30, 2011. Table 2 shows descriptive data with respect to the companies in the sample. As can be seen, the firms have an average total asset base of about $251 billion and corresponding liabilities of about $198 billion.

To calculate the IFRS pension asset or liability, an example given by Ernst & Young was followed in which all of the unrecognized other comprehensive income (loss) related to the defined benefit was subtracted (added) to the pension item reported under US GAAP. The following two journal entries illustrate how a company converting to IFRS from US GAAP would account for this:

If OCI has a debit balance

Pension Asset/Liability	XXX	
Other comprehensive income		XXX

If OCI has a credit balance

Other comprehensive income	XXX	
Pension Asset/Liability		XXX

If a company has a debit balance in OCI, then it has unrecognized losses sitting on the balance sheet. When converting to IFRS, all of those unrecognized losses will become recognized and the pension asset/liability will increase by that same amount. If a company has a credit balance in OCI, then it has unrecognized gains on the balance sheet, so when converting to IFRS, that amount is recognized and subtracted from the pension asset/liability.

To test this hypothesis, the pension asset or liability that the companies in the sample currently recognized under US GAAP was compared to the calculated pension asset or liability that would be recognized under IFRS.

Results and Discussion

Table 3 displays the results under both a mean and a median test. As it shows, there is a significant difference between US GAAP and IFRS ($p < 0.001$). Where US GAAP on average reports a defined benefit liability of $2.9 billion, IFRS reports on average a pension asset of $4.8 billion. Consequently, the balance sheets of companies with defined benefit pension plans will see a substantial reduction in liabilities or increase in assets.

In general, employers would favor this effect because their balance sheets look better after the IFRS transition. It would reduce their debt-to-asset ratio which would make the firms, at least appear, more solvent and thus more attractive to creditors and investors. This in turn would help them raise more capital for investments and could, potentially, improve the economy.

On the other hand, this shift in the financial statements is attributable to a mere change in reporting method and not a change in economic standing or cash flows. Since the status of the pension plan has not improved, less savvy users of the financial statements may falsely believe that the company is doing better when nothing has even changed.

CONCLUSION

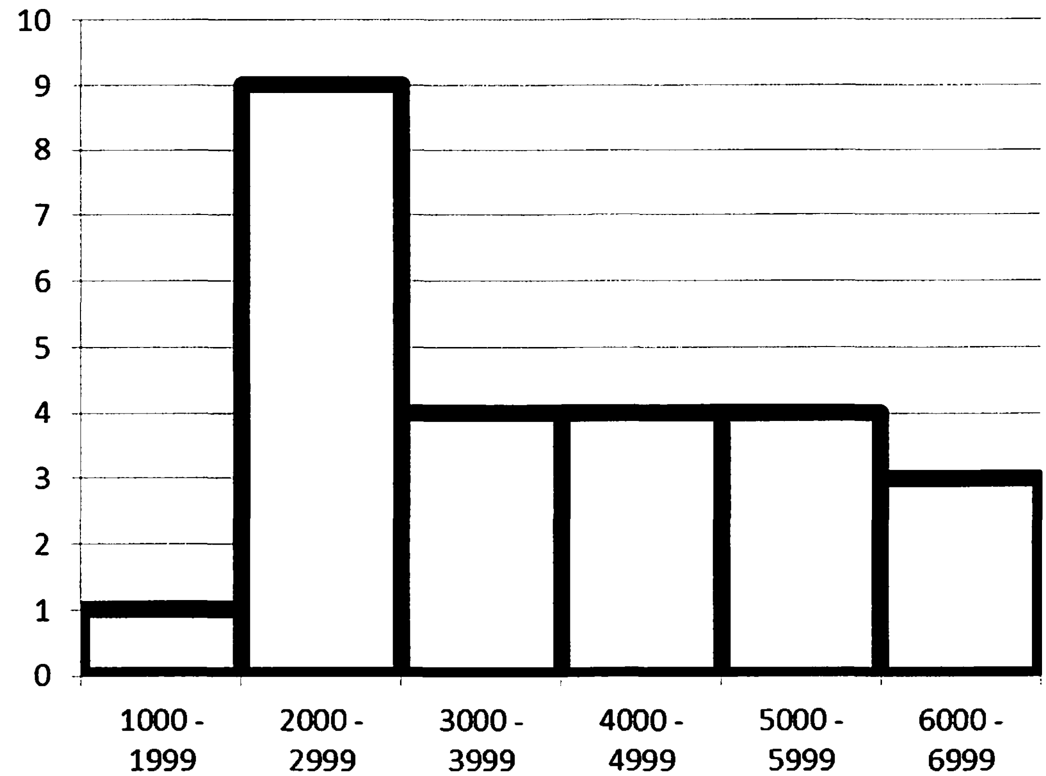
This study examined the history of US pension accounting and compared it to international pensions accounting (IFRS). Its analysis consisted of comparing the pension asset or liability large US firms currently report under US GAAP to the calculated IFRS pension asset or liability. The method used to compute the IFRS item was based on an example given by Ernst & Young where the pension related accumulated other comprehensive income was added or subtracted to the pension asset or liability reported under US GAAP. The results were then compared under a mean and median test, both of which concluded that there was a significant difference between the amounts reported under each accounting standard. Entities with defined benefit plans that move from US GAAP to IFRS should therefore be aware of this impact on their balance sheets.

Because the analysis was limited to 25 large US corporations, the results should not be extrapolated to small or medium sized entities, nonprofit or governmental agencies, or firms that do not follow US GAAP. Another restraint was data availability. If a company were to convert from US GAAP to IFRS today, the amount of other comprehensive income added or subtracted to the pension liability would only include the unrecognized actuarial gains and losses and the unrecognized vested prior service costs, but because not enough information is given within the financial statements to distinguish these amounts from the other pension-related components of other comprehensive income, they were also included. However, these additional parts are generally immaterial, when compared to the aggregated amount, so their inclusion would not significantly impact the results.

Future research in this area may consider examining a larger sample size of similar companies, companies with more data available relating to the other comprehensive income account, midsized and small entities, or companies that do not follow US GAAP.

APPENDIX

Figure 1: Frequency by SIC Group



1000 - 1999	Mining and Construction
2000 - 2999	Manufacturing - food, tobacco, textile, apparel, lumber, furniture, paper, printing, chemicals, and refining
3000 - 3999	Manufacturing - rubber, leather, stone, metal, machinery, electronic, transportation, controlling instruments, miscellaneious
4000 - 4999	Transportation, communications, electric, gas and sanitary
5000 - 5999	Retail trade
6000 - 6999	Finance, Insurance, and Real Estate

Table 1: US GAAP vs. IFRS

	US GAAP	IFRS
Actuarial method used for defined benefit plans	Different methods are required dependent on the characteristics of the benefit calculation of the plan.	Projected unit credit method is required in all cases.
Valuation of defined benefit plan assets	Valued at "market-related" value (which is either fair value or a calculated value that smooths the effect of short-term market fluctuations over five years) as of the balance sheet date.	Valued at fair value as of the balance sheet date.
Treatment of actuarial gains and losses for annual benefit cost	May be recognized in the income statement as they occur or deferred through either a corridor approach or other rational approach applied consistently from period to period	May be recognized in the income statement as they occur or deferred through a corridor approach or other rational approach applied consistently from period to period. Entities can elect to recognize immediately in other comprehensive income. Gains or losses immediately recognized in other comprehensive income are not subsequently recognized in the income statement.
Amortization of deferred actuarial gains and losses	Over the average remaining service period of active employees and over the remaining life expectancy of inactive employees.	Over the average remaining service period (that is, immediately for inactive employees).
Amortization of prior service costs	Over the future service lives of employees or, for inactive employees, over the remaining life expectancy of those participants.	Over the average remaining vesting period; immediate recognition if already vested.
Recognition of plan asset or liability in the balance sheet	Must recognize in balance sheet the over/under funded status as the difference between the fair value of plan assets and the benefit obligation. Benefit obligation is the pension plan obligation for pension plans and accumulated pension plan obligation for any other postretirement plans. No portion of a plan asset can be classified as current; current portion of net postretirement liability is the amount expected to be paid in the next 12 months.	Must recognize a liability in the balance sheet equal to the present value of the defined benefit obligation plus or minus any actuarial gains and losses not yet recognized, minus unrecognized prior service costs, minus the fair value of any plan assets. (Note: If this amount is negative, the resulting asset is subject to a "ceiling test.") Balance sheet classification not addressed in IAS 19.
Settlements and curtailments	Settlement gain or loss recognized when obligation is settled. Curtailment losses recognized when curtailment is probable of occurring, while curtailment gains are recognized when the curtailment occurs.	Gain or loss from settlement or curtailment recognized when it occurs.

Table 2: Descriptive Statistics

(in millions)	N	Mean	Median	Std Dev	Min	Max
GAAP - Pension Asset (Liability)	25	(2,895)	(1,391)	3,611	(13,129)	1,169
IFRS - Pension Asset (Liability)	25	4,761	1,395	7,663	(164)	32,635
Pension Expense	25	484	166	733	(394)	2,680
Total Assets	25	251,233	43,705	504,700	7,874	2,264,909
Total Liabilities	25	198,566	32,175	454,834	6,201	2,036,661
Revenue	25	72,193	52,796	77,837	5,997	383,221
Net Income	25	6,738	2,926	7,643	(2,238)	30,460
Current Assets	21	18,926	14,186	15,417	3,899	58,984
Current Liabilities	21	16,209	10,855	15,348	2,126	62,633

Table 3: Test Statistics

Pension Asset (Liability)	Mean	t value	T-test Significance	Median	Median Test	Median Test Significance
GAAP (in millions)	(2,894.51)			(1,391)		
IFRS (in millions)	4,760.50			1,395		
Test Calculation		(3.659)	< .001		(6.44)	< .0001

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